

WHAT IS CLAIMED IS:

- 5 1. An improved marine vessel comprising:
a hull, the hull including a transom and having a
predetermined waterline intersecting the hull and transom;
an engine disposed within the hull;
an upper driveshaft driven by the engine, said driveshaft
10 passing through the transom; and
a stern drive attached to the transom, the stern drive
including a vertical shaft driven by the upper driveshaft, a
propeller shaft driven by the vertical shaft, and a housing
attached to the transom and enclosing the vertical shaft;
15 wherein the propeller shaft exits the housing of the
stern drive; and
wherein the upper driveshaft passes through the transom
and enters the stern drive above the predetermined waterline.
- 20 2. The vessel of Claim 1, wherein the stern drive
includes a mounting plate attached to the transom of the
vessel above the predetermined waterline.
- 25 3. The vessel of Claim 1, further comprising an
actuator disposed between the housing of the stern drive and
the transom of the vessel.
- 30 4. The vessel of Claim 3, wherein the stern drive
further comprises a cantilevered member attached to the
housing; and
wherein the actuator is disposed between the cantilevered
member and the transom of the vessel.
- 35 5. The vessel of Claim 3, wherein the actuator
repositions the housing of the stern drive between an
operative position below the predetermined waterline and a

5 maintenance position wherein substantially all of the housing of the stern drive is lifted above the predetermined waterline.

10 6. The vessel of Claim 3, wherein the actuator repositions the housing of the stern drive between a substantially vertical position and a substantially horizontal position.

15 7. The vessel of Claim 6, wherein the propeller shaft of the stern drive is brought above the predetermined waterline when the stern drive is in a substantially horizontal position.

20 8. The vessel of Claim 6, wherein the stern drive is brought completely above the predetermined waterline when in a substantially horizontal position.

25 9. The vessel of Claim 1, wherein the vertical shaft is driven by the upper driveshaft through a first set of gears and a universal joint located above the predetermined waterline.

10. The vessel of Claim 9, wherein the stern drive further comprises a bellows enclosing the first set of gears and the universal joint.

30 11. The vessel of Claim 1, wherein the engine drives the upper driveshaft through an engine driveshaft extending from the engine, a flywheel connected to the engine driveshaft, and a drive wheel connected to the upper driveshaft and engaging said flywheel.

5 12. The vessel of Claim 1, wherein the engine drives the upper driveshaft through an engine driveshaft extending from the engine, a lower pulley connected to the engine driveshaft, an upper pulley connected to the upper driveshaft, and one or more belts connecting the lower pulley to the upper pulley.

10 13. The vessel of Claim 1, wherein the engine drives the upper driveshaft through an engine driveshaft extending from the engine, wherein the engine is disposed within the hull so that the engine driveshaft lies coaxial with the upper driveshaft, and wherein the engine driveshaft rotatably engages the upper driveshaft.

15 14. The vessel of Claim 1, further comprising:
a cooling system connected to the engine;
a water pump connected to the cooling system;
a water intake connected to the water pump; and
20 wherein the water intake is located outside the stern drive.

25 15. The vessel of Claim 1, further comprising an exhaust system running from the engine to a terminal point above the predetermined waterline.

16. The vessel of Claim 15, wherein the exhaust system includes a muffler.

30 17. A method of assembling a marine stern drive to a vessel having an engine, an engine driveshaft, a transom and a predetermined waterline, comprising:

locating an upper driveshaft through the transom above the predetermined waterline;

35 mounting a stern drive on the transom of the vessel at

least partially above the predetermined waterline, the stern drive including a vertical shaft driven by the upper driveshaft, a propeller shaft driven by the vertical shaft, and a housing attached to the transom and enclosing the vertical shaft;

rotating the stern drive between an operative position below the predetermined waterline and a maintenance position wherein substantially all of the housing of the stern drive is lifted above the predetermined waterline.

18. The method of Claim 17, wherein the stern drive includes a mounting plate attached to the transom of the vessel

19. The method of Claim 19, wherein the stern drive is rotated above the predetermined waterline using an actuator disposed between the housing of the stern drive and the transom of the vessel.

20. The method of Claim 17, wherein the stern drive includes a cantilevered member attached to the housing; and

wherein the actuator is disposed between the cantilevered member and the transom of the vessel.

21. The method of Claim 19, wherein the actuator repositions the housing of the stern drive between a substantially vertical position and a substantially horizontal position.

22. An improved stern drive for use with a marine vessel, the stern drive comprising:

a vertical shaft;

a propeller shaft driven by the vertical shaft;

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a mounting plate;
a housing attached to the mounting plate and enclosing
5 the vertical shaft; and
an actuator attached to the housing;
wherein the actuator is spaced apart from the mounting
plate of the stern drive.

10 23. The marine propulsion system of Claim 22, wherein
the stern drive further comprises a cantilevered member
attached to the housing.

15 24. The marine propulsion system of Claim 23, wherein
the actuator is attached to the cantilevered member of the
stern drive.

20 25. The stern drive of Claim 22, wherein the vertical
shaft is at least 20 inches in length.